Raj Garkhedkar

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IMMEDIATE OBJECTIVE

Data Scientist & Physicist. Striving to innovate by applying myself & my academic knowledge to problems. Passionate about learning and utilizing the latest technologies/frameworks to optimize & upgrade workflows. Daily rigorous experience with the entire data science pipeline - from ingestion to CI/CT/CD to MLOps/DevSecOps, and using mathematics/physics to build robust deep learning architecture.

Active TS clearance

PROJECT & PROFESSIONAL EXPERIENCE

DATA SCIENTIST *COLSA Corporation, Huntsville, AL*
January 2022

- SciML – creating mission ready and rigorous AI systems on the Bounty Hunter program.
- Built API's that interfaced with USRP SDR's and stream data to ML models
- Built containers that use Kafka & MongoDB to stream & store data - from an SDR to a database
- Built containers that utilize REST APIs to interact with a front end that establish stream connections with hardware
- Built microservice containers that allow for airgapped & restricted environment ready ML inferencing on data feeds
- Built automated testing frameworks for use in CI/CT/CD pipelines and utilizing Docker Swarm & Kubernetes for container orchestration
- Built various models for classification, excision, & segmentation of complex data

MACHINE LEARNING ENGINEER INTERN *COLSA Corporation, Huntsville, AL*
Summer 2021

- SciML – dimensionality reductions/transforms, nonlinear dynamics & control theory implementation. Used Python & Julia for signal processing & noise analysis
- Sparse Identification of Nonlinear Dynamical systems (SINDy) modeling and optimization work through PySINDy – algorithmic discovery of differential equations that model nonlinear systems through fundamental governing principles (Lorenz 63 & Korteweg-De Vries Equation)
- Algorithm development through the mathematical construct behind neural networks to tailor activation functions, loss functions, and network layers through modeling ordinary/partial differential equations, linear algebra, abstract algebra, & data structures

DATA ENGINEERING INTERN *Enkon Energy Advisors, Houston, TX*
Summer 2019 and Summer 2020

- Used Python to create web scraper script, to capture daily NGL flows from various pipelines throughout the country at their receipt/delivery points. The web-scraped data is automatically appended to our databases thus fully automating the data collection behind consulting projects.
- Wrote an article, published in Enkon's monthly newsletter, on the Current State of Liquefied Natural Gas where I examined the headwinds and drivers that guided the first and second wave of LNG Projects and global exports, also examined the global supply and demand.
- Completed with over 4000 lines of Python code with my own helper functions to ease analytics.